

SON PREFERENCE IN ASIA-- REPORT OF A SYMPOSIUM

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BACKGROUND

In 1992, China held an "International Seminar on China's 1990 Population Census," at which many foreign scholars and a group of Chinese scholars presented papers on the "missing girl" problem seen in China's 1990 census and previous enumerations and surveys. From these papers came the growing awareness that the dearth of girls in cohorts of children was not just a Chinese problem, but was an increasing phenomenon in other countries of East Asia, such as South Korea, and in some South Asian countries. Therefore, Chinese and foreign scholars proposed that the United Nations sponsor an Asia-wide symposium on the ever-worsening imbalance between the numbers of boys and girls, and the causes and possible solutions to this perceived problem. After some location problems and postponement until after "The International Conference on Population and Development" (Cairo, September 1994), the "International Symposium on Issues Related to Sex Preference for Children in the Rapidly Changing Demographic Dynamics in Asia" was held in Seoul, South Korea, in November 1994. It was sponsored by the United Nations Population Fund and the Government of the Republic of Korea, and hosted by the Korean Institute of Health and Social Affairs (KIHASA).

The sponsors invited scholars and a few officials from the following countries and regions: South Korea, Mainland China, Taiwan, India, Sri Lanka, Pakistan, Bangladesh, Thailand, and Indonesia. A paper from Vietnam was later added.

KEY FINDINGS

Observation 1: Some countries of Asia exhibit very strong son preference, while in other countries, there is barely any detectable

preference for boys over girls. Within some large countries, there are areas that appear almost free of son preference while in most regions within those countries the problem is severe.

In the following areas, strong son preference was detected and demonstrated in the papers:

Mainland China (Gu and Li, 1994)
Taiwan (Chang, 1994)
South Korea (Cho and Kim, 1994;
Hong, 1994)
India (Visaria, 1994; Das Gupta, 1994)
Pakistan (Sathar, 1994; Karim, 1994)
Bangladesh (Chaudhury, 1994; Alam
and Bairagi, 1994)
Nepal (Soeradji and Hatmadji, 1994)
Vietnam (Goodkind, 1994)

In the following areas, son preference appears nonexistent or weak:

Indonesia (Soeradji and Hatmadji, 1994)
Thailand (Wongboonsin and Ruffolo,
1994)
Sri Lanka (Abeykoon, 1994; Fernando,
1994)

We learned that generalizations about whole countries may mask enormous variations within countries. For example, in Mainland China, most areas show extreme preference for boys over girls, but Shanghai Municipality does not demonstrate a "missing girl" problem. Within India, parts of the South exhibit comparatively little son preference--Kerala, Andhra Pradesh, and Karnataka--while in North Central India the problem is severe, and extreme lack of desire for any daughter is found in the Northwest--Punjab and Haryana (Das Gupta, 1994). In Indonesia, son preference appears nearly nonexistent, with the exception of the Batak and Acehnese ethnic groups (Soeradji and Hatmadji, 1994).

Observation 2: In the past, the generalization

has been made that strong son preference would slow fertility decline or prevent fertility from falling as low as it might otherwise go . But these papers confirm that some areas, in spite of very strong son preference, have achieved fertility at or below replacement level--South Korea, Taiwan, Mainland China--and that other areas now experience rapid fertility decline in spite of strong son preference--North India, Vietnam (Leete, 1994).

In Pakistan, a widespread strong desire for two living sons seems to be contributing to continuing high fertility (Sathar, 1994). In Taiwan, son preference has been associated with an excess of births over the preferred number of children (Chang, 1994). In Vietnam, fertility would be slightly lower in the absence of son preference (Haughton and Haughton, 1994). But many studies find little or no impact of son preference on fertility (reviewed in Soeradji and Hatmadji, 1994). Evidence suggests that couples in Bangladesh would definitely like to have one son but not more than that, an observation suggesting that son preference should not greatly slow fertility decline (Chaudhury, 1994).

Rather than preventing fertility decline or acting as a major drag on the rapidity of fertility decline, son preference may determine how couples treat their daughters or potential daughters as the drop in fertility takes place or after fertility is low.

Observation 3: In areas where there is little or no son preference, fertility decline does not bring it on. But where son preference existed alongside high or moderately high fertility, even a modest decline in fertility may exacerbate the existing discrimination against female babies, children, and now, fetuses.

In India, for example, Kerala (which has always shown the least gender bias in the country) showed the smallest increase in masculinization of the population ages 0-6 from 1961 to 1991, although it has experienced the

maximum fertility decline. Punjab and Haryana show greater worsening of the imbalances in juvenile sex ratios, an astounding fact given that those states started with an extraordinary dearth of females at ages 0-6 in 1961. For a given percent decline in the total fertility rate, India's northwestern and some northern states show greater exaggeration of discrimination than southern states (Das Gupta, 1994).

But in Bangladesh, fertility decline and a growing tolerance for daughters seem to have coincided. There is no increasing distortion in the sex ratio among children. Infant mortality data show similar improvements among boys and girls. But among children and adults, health care expenditures favor males (Chaudhury, 1994).

Observation 4: The overriding goal of many family planning programs has been merely to reduce fertility. But if a country's population program is almost solely concentrated on reducing the number of births, this distorts the sex ratio at birth, where son preference is great (Gu, 1994).

In his synopsis, Gu Baochang asserted that an abnormal sex ratio at birth results from the interplay of four factors: a cultural setting of strong son preference, low level of socioeconomic development, rapid fertility decline, and a family planning program tightly focused on reducing the number of children per woman.

Observation 5: Fertility transition is not unidimensional, from high to low fertility. Rather, it is a multi-dimensional process, which includes not only *how many* children to have (level of fertility), but also *when to have* them (timing of childbearing), and *what to have* (sex of birth) (Gu, 1994).

Observation 6: Greater economic development, affluence, education, and knowledge do not necessarily ameliorate son preference or reduce the use of sex-selective abortion.

Many participants in the symposium expressed hope that Asia's "missing girl" problem is a transitory phenomenon that will eventually disappear as economic, social, and political development take place (Gu, 1994). But the evidence so far is mixed or discouraging. Taiwan and South Korea are some of the most developed places in Asia, yet sex-selective abortion is very widespread. In Matlab, Bangladesh, some schooling for the mother does not reduce discrimination against female children (Alam and Bairagi, 1994). Iqbal Alam argued that economic development is not the solution. Rather, changes in cultural norms are required. This observation is supported by evidence that in South Korea, parents want boys primarily not for economic reasons but for emotional (prestige, family harmony) and traditional (family lineage) reasons (Hong, 1994).

In the following areas, the use of sex-selective abortion of females is very widespread: Mainland China, Taiwan, South Korea, and India. In the following countries, there is so far no convincing evidence of substantial use of prenatal sex detection followed by abortion of females: Indonesia, Thailand, Sri Lanka, Pakistan, Bangladesh, and Vietnam.

Observation 7: Public concern about the "missing girl" problem in Asia focuses on the plight of the men who will be unable to find brides 20 years hence. This focus itself is male-oriented and reflects high valuation of males and disregard of the needs of females. Meanwhile, the fate of the abandoned, aborted, murdered, or maltreated girls is barely seen as a problem (Greenhalgh and Li, 1995).

Symposium participants repeatedly noted this bias in attitudes about the "missing girl" problem, and strove to redirect the focus to the notion that this problem is not 20 years into the future, this problem is *now*.

Is it necessarily bad for a society to have a

marked imbalance between the numbers of males and females? Most participants said yes, but some argued that societies can and do adjust to these imbalances and will again. Participants noted that many societies have coped with enormous disparities between numbers of adult men and women, usually because men were killed in warfare. In some societies, 30 or 40 percent of adult women remain unmarried or widowed, mostly because of a dearth of men.

Observation 8: Fertility decline can simultaneously have both strong positive and strong negative effects on females. In particular, fertility decline can improve the health and survival of adult women, while worsening the health and survival of female fetuses and children (Das Gupta, 1994).

Observation 9: In Asia, the dearth of girls is usually seen at second or higher birth-order.

Sex-selective abortion, infanticide, and severe neglect of girls do not seem to affect first births in Mainland China, Taiwan, India, or South Korea.

In Mainland China in the early 1980's before there was any technique widely available for prenatal sex detection, a dearth of female girls was reported at third and higher birth-orders. The true explanation for these missing females was not a distorted sex ratio at birth, but rather the nonreporting of the births of girls who were adopted out or abandoned or killed soon after birth. As the 1980's progressed, the dearth of girls became more marked at higher birth-orders and also emerged at second births. Added to the above explanations was escalating use of sex-selective abortion.

Observation 10: The fact that girls are missing at second or higher birth-orders leads to the hypothesis that couples would not resort to prenatal sex detection for first births, or for second births where the firstborn was a son, or for third and higher order births if the couple already had one or more sons.

Where fertility is low, as in Mainland China, this suggests that the majority of pregnant women, i.e. those expecting a first birth, plus those with a son expecting a second child, are not part of the group at risk for distorting the sex ratio at birth (Gu and Li, 1994).

Observation 11: Theoretically, in a society where each couple wants one son at least, and if each couple were willing to use prenatal sex detection and sex-selective abortion of female fetuses, then the effect of son preference on the sex ratio at birth would be greater at low fertility than high fertility (Chang, 1994).

The larger is desired family size, the lower the probability that a woman will be without a son, so the smaller the proportion of women likely to selectively abort girls.

Observation 12: Higher recorded mortality for girls than boys documents the continuation of sex preference in the treatment and care of children.

This problem is particularly severe in India, where elevated female mortality is most apparent after 6 months of age. In Pakistan, evidence of selective neglect of girls is mixed. Karim documents that in Pakistan, once children are born, boys and girls seem to be treated equally with regard to duration of breastfeeding, nutrition, and medical care. No excess female infant mortality (up to age 1) is seen in Pakistan 1991 DHS data (Karim, 1994). But on the other hand, DHS data also show that in Pakistan, mortality at ages 1-4 is about 70 percent higher for girls than boys (Sathar, 1994).

Caveat 1: Data are limited in the study of sex preference in Asia. Therefore, most conclusions must remain tentative until better information confirms or refines them. Meanwhile, the approximate dimensions of the problem are clear, and much action can proceed based on current knowledge.

Anecdotal evidence shows that prenatal detection of the sex of the fetus and sex-selective abortion are available to couples in many parts of Asia. These services are even advertised where not illegal. But measuring the precise impact of sex-selective abortion of female fetuses on the sex ratio at birth remains problematic everywhere.

In India and China, there are some data on the changing sex ratios at birth in hospitals. In Mainland China, in what was thought to be a representative sample of hospitals, the recorded sex ratio at birth of 1.2 million hospital births a year had risen to 109.7 boys per 100 girls by 1991, up from a normal level of 105-106 (Zeng, et al., 1993). If correct for China as a whole, real change in the sex ratio at birth explained only about half of the missing girls at the youngest ages in China's 1992 census. The remainder would have to be explained by selective undercounting of girls, female infanticide, or selective neglect of girls. But it is not clear if these hospitals are truly representative of all Chinese hospitals, or if in China births that take place outside of hospitals are closer to normal or farther from normal than hospital births.

Other data limitations were pointed out. For example, in most Asian countries, it is possible that the husband's preferences regarding sex of offspring are more important than the wife's in determining treatment of female fetuses and children. Yet most surveys ask only women for their preferences (Leete, 1994).

In countries where infanticide or abandonment of female babies persists (Mainland China, India), reported figures on the sex ratio at birth from non-hospital sources may be more distorted than the actual sex ratio at birth. This is because respondents often report neither the birth nor the early death of these female babies.

IMPLICATIONS FOR POLICY

Participants in the Symposium did not agree on a set of policy guidelines. In particular, there was much discussion but no conclusion about whether governments should outlaw prenatal sex detection and/or sex-selective abortion. Many Asian governments have done so --South Korea, and China for example. Participants agreed that such laws make a strong moral statement that selective abortion of female fetuses is unacceptable. At the same time, participants agreed that such laws have been ineffective and will not stop the practice. Some participants objected that such laws criminalize women and medical personnel and are likely to be enforced in a discriminatory, uneven manner.

Policy Suggestions from the Symposium:

1. Family planning programs should be human oriented rather than number oriented. These programs should emphasize reproductive health and the improvement of women's status, and should be coordinated with the Maternal and Child Health Program (Gu, 1994).

Mainland Chinese scholars recommended that the performance of family planning programs should be evaluated not only in terms of fertility level, population growth rate, and contraceptive prevalence, but also in terms of the degree of son preference in fertility behavior, as measured by the sex ratio at birth (Gu and Li, 1994).

2. The Information, Education and Communication Program should not only encourage people to have fewer children, but also explicitly teach them to equally value female and male children (Gu, 1994).

3. In countries such as Pakistan, with high fertility and strong son preference, it is likely that fertility decline will be accompanied by worsening discrimination against female fetuses and children (Sathar, 1994). It is

important to try to counteract that trend in the family planning, MCH, and IEC programs before, during, and after the fertility decline. Work to improve the position of women in society.

4. In trying to counteract discrimination against female fetuses and children, emphasize not only the future dearth of available wives, but also the negative impacts of sex-selective abortion, female infanticide, and selective neglect of girls on today's women and girls.

5. While focusing on the problem of sex selective abortion of female fetuses, continue to attack pervasive discrimination against girls that leads to their untimely deaths.

6. Publicize the negative effects on women and children of sex-detection technologies and abortions past the first trimester.

In Taiwan, chorionic villus sampling (CVS) is the main available technique for prenatal sex identification. The government has recently publicized new information on birth complications and defects possibly caused by use of CVS (Chang, 1994).

7. Emphasize consciousness-raising for the whole society on the value of girls and women, the need for education and health care equally for boys and girls, and the need for legal changes to promote male-female equality. Cultures can adapt.

8. Establish national and regional working groups to formulate and promote action strategies to reduce sex preferences and their negative impacts.

9. Monitor, regulate, and discourage the use of prenatal sex detection technologies.

10. Promote gender-sensitive curricula in schools and strengthen the ethics curricula in medical schools.

Research Recommendations from the Symposium:

- 1. Strengthen the capacity of statistical and research organizations to collect and analyze gender-disaggregated data and improve their quality.**
- 2. Regularly produce a set of reproductive health indicators designed to heighten awareness of the problems of gender discrimination.**
- 3. Emphasize improvement of data collection and a cross-national assessment of the quality of data on sex preferences for children.**
- 4. Improve modeling and projections of the impacts of gender discrimination.**
- 5. Improve research on the causes and dynamics of son preference.**

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Profile of Zaporizhzhya (Ukraine)

Steve Rapawy

This report is an installment in a series of reports on cities in Ukraine, to determine their socio-economic progress in the post-Soviet period.

Summary

Zaporizhzhya (Ukraine) has a leftist but reform-minded local government. The city is among the leaders in privatizing housing and the introduction of market-oriented reforms. Nevertheless, despite Western assistance, few tangible results are apparent. Entrenched interest groups, and massive factories (the latter producing output for which demand has plummeted) combine to hamper efforts to redirect the local economy more towards a free-market basis. Any attempt to resuscitate these industries would require massive infusions of capital. The city's prospects are improved, however, by the lack of radical political groups.

Historical Background

Zaporizhzhya, located mostly on the east bank in the lower Dnieper River, occupies an important historic territory. The central portion of the river has a series of steep rapids, preventing navigation, and numerous islands are scattered throughout the length of the river. One of the islands, Mala Khortytsya, south of the rapids and about five miles north of the present city, became a Cossack stronghold in the 16th century, before being overrun by Tatars in 1558. Zaporozhians had a turbulent history for the next several centuries that left a deep imprint on the collective memory of Ukrainians. Since the collapse of the former Soviet Union, there has been a Cossack revival directed principally at young people and the formation of Cossack military units.

Today's city traces its origin to a Russian fortress, Oleksandrovska, built in 1770 opposite the Cossack fortification on Khortytsia Island.

The fort lost military significance the following decade as Crimea was incorporated into the Russian Empire and the Ottomans lost control of the northern Black Sea coast. The installation was formally abandoned in 1798, being replaced by a farming settlement of about 400 people. By 1806, the village had become the county seat in the newly formed Katarynoslav Guberniya. The new administrative status transformed Oleksandrovska from a village into a small town. The whole region was covered, very quickly, with huge plantations worked by thousands of serfs. In 1805, Oleksandrovska County had 126 landlords who owned 1.6 million acres of land and almost 14 thousand serfs.

Agriculture and related industries played a key role in the town's development for much of the 19th century. Initially, sheep raising dominated agriculture, with merino wool being the principal export commodity, but later in the century, wheat replaced wool as the main export. The population increased from 1,726 in 1824 to 3,729 in 1861, the year that serfdom was abolished. Emancipation, and the accompanying reforms, stimulated economic development, as agriculture and trade were supplemented by small scale manufacturing, mostly processing agricultural products. Significant economic growth occurred, however, only after railroads linked the town with Moscow in 1873 and the Crimea two years later. The town became a freight transfer point, with cargo (primarily grain) being transported by rail, to be loaded on barges and floated down the river to the Black Sea ports for export. Besides being a transportation center, Oleksandrovska became a center of agricultural machinery manufacturing, with 13 factories located in the town, with most of them being founded by foreign industrialists. These factories produced equipment that helped mechanize agriculture, with an estimated one-third of sowing and harvesting in the region being mechanized by 1889.

New rail links helped Oleksandrovsk diversify beyond its agriculture-oriented economy. In 1902, the town was connected to the coal and iron ore mining centers of the Donbas, Kryvy Rih and Nikopal, transforming Oleksandrovsk into a boom town. At the outbreak of World War I, it had 11 banks and 47 factories, employing 10,000 workers. The population also grew rapidly, from 19,000 in 1897 to 57,600 in 1913. However, rapid economic and demographic growth, coupled with low pay and poor working conditions, increased social unrest. This was first manifested by labor strikes, with tensions escalating into armed conflict by the 1905 Revolution, with between 300 and 500 armed workers battling police and soldiers (December 12, 13, 1905).

The Tsar's abdication in March 1917 precipitated an intense struggle among several groups for control of the area. Initially, the local councils, controlled largely by the Ukrainian Socialist Revolutionaries and backed by troops of the Ukrainian National Republic, had nominal rule. However, the Socialist Revolutionaries' lack of clear-cut policies, especially on the issue of land reform, strengthened the hand of the Bolsheviks (who advocated immediate seizure of land). They gained control of the city and the region in the winter of 1917-1918. However, their rule was brief, as German troops entered the city on April 18, 1918. A harsh occupation policy, including grain requisition and a hostile attitude to the leftist local political currents, provoked armed opposition.

When the Civil War ended in 1921, huge economic and population losses had been inflicted on the city and the area. Only 8 of the 300 nationalized food processing facilities in the province were operating; 23 of the 54 metallurgical plants and 2 of 23 footwear plants. The 1920 harvest was one-quarter of pre-war levels, with the ensuing famine and typhus decimating the population.

Municipal services and other amenities in pre-World War I Zaporizhzhya lagged behind the

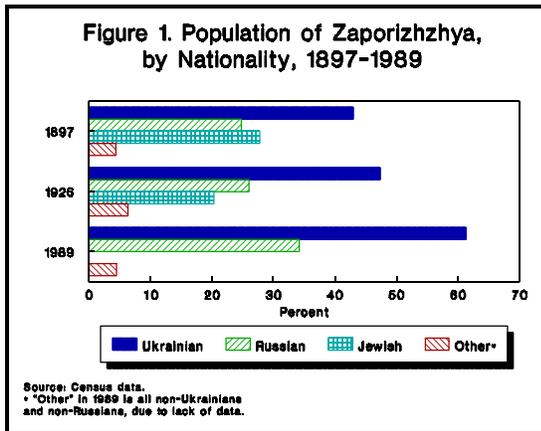
rapid economic development and population growth. Of approximately 8,500 dwellings, more than half were made of wood, 1,200 were built of brick or stone and the remainder were adobe built. Sanitation was virtually non-existent, and sewage was collected in pits, frequently contaminating well water before being removed. Some drinking water was piped from the Dnieper or its tributaries without filtration. Improvement came in 1914, when a modern water distribution system was installed. Nevertheless, health care facilities were inadequate for the rapidly expanding population. In 1913, there were a half dozen small hospitals, with 250 beds, 5 pharmacies, 25 physicians, 62 assistant doctors and mid-wives.

Some schools existed from early in the town's history. An army-run school was established in the fort, and in 1806 a government school and a parochial school were established. In the 1850's, a Jewish school and a school for upper class girls were organized. By 1917, the city had 26 elementary schools, 2 intermediate schools, 5 secondary schools and a pedagogical institute (with 97 students enrolled). Yet, 40 percent of the city's population remained illiterate, although this presumably included many recent migrants from rural areas (see below for discussion of recent educational developments).

Population and Labor Force

As in the beginning of the century, economic development during the Soviet period fostered population growth. The former Soviet government targeted the area for major industrial development, and Zaporizhzhya (changed from Oleksandrovsk in 1921) became a major center of agricultural machinery. The centerpiece of development, however, was construction of a nearby dam on the Dnieper River (1929-1932), to provide electric power for the city and the region. This contributed to rapid population growth, to 300,000 by the end of 1940, more than a fivefold increase since the 1926 census.

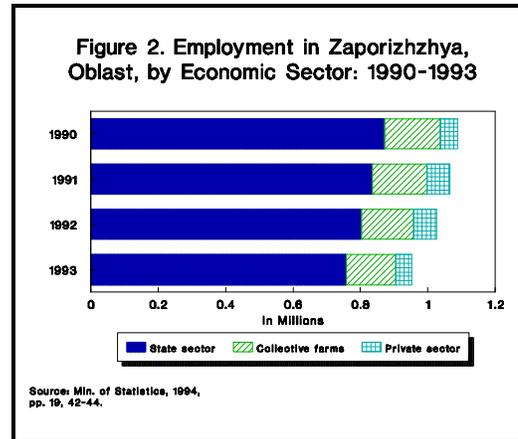
World War II brought catastrophic population losses. Numerous factories and workers were evacuated before the advancing German army. Additional losses occurred during the 2-year occupation. Before the city was recaptured in the fall of 1943, the population fell to 65,000. By 1956, the population reached 381,000, well above the pre-war level. Zaporizhzhya continued to experience robust population growth during the next two decades, with the 1979 census recording 781,000 residents.



Throughout the city's history, Ukrainians comprised the largest share of the population (Figure 1), but it has always been a Russian speaking city. Migrants from the adjacent Ukrainian-speaking countryside quickly claimed Russian as their native language and frequently Russian nationality as well. The 1897 census asked respondents to indicate their native language but not their nationality; the share of Russian-speaking Ukrainians, therefore, cannot be identified. The 1926 census shows that almost a third of Ukrainians claimed Russian as their native language, a share that has continued to the present. Earlier ethnic diversity has disappeared largely through assimilation, and to a lesser extent by German extermination and dispersal of the Jewish population, so that it is now basically a Ukrainian - Russian city.

Recent demographic trends in Zaporizhzhya reflect the worsening health care and living

conditions that exist throughout the former Soviet Union. A precipitous drop in births virtually stopped population growth. The small increase in population from 881,000 in 1989 to 895,000 in 1994 (for current boundaries, which have changed since the 1989 census) was due largely to migration. Birth rates dropped from 12.9 (per 1,000) in 1989 to 9.0 in 1993. The combination of reduced fertility and increased mortality resulted in deaths exceeding births by 1,456 in 1992 and by 2,771 in 1993. Another measure of growing mortality is the drop in life expectancy at birth, from 66.5 years for men and 74.4 years for women in 1988-89 to 63.0 years and 73.8, respectively, in 1992-93.



The city's state sector employment totaled 404,400 in 1993, comprising nearly 60 percent of the oblast's urban employment (see Figure 2 for decline in oblast employment, for each sector). That is somewhat higher than its share of the oblast's urban population, the difference evidently being due to commuting. Employment is not reported by branch of activity, but because city employment and industrial output comprise nearly 60 percent of the oblast total, oblast data can be used to approximate city branch employment. Industry, particularly the automotive and metallurgy sectors (Zaporizhzhya produces most of Ukraine's passenger cars), is the key employer. The food industry and science and scientific services also are major employers. The city has confectionery and meatpacking plants,

and two breweries. Research institutes and design bureaus employ large numbers of technical personnel, largely in support of the machine-building industry.

Political Landscape

Zaporizhzhya has not been at the forefront of political movement in the country nor has it produced nationally known political figures. Rukh and other pro-Ukrainian groups attempted to drum up patriotic fervor. These groups sponsored events, such as a 500th anniversary celebration in 1990, to commemorate the founding of the Ukrainian Cossacks. Although these events drew enthusiastic crowds, they did little to generate national awareness in a heavily Russified region that is steeped in Cossack tradition.

Paradoxically, Zaporizhzhya is both a communist stronghold and a leader in economic reforms. The 18-member parliamentary delegation from Zaporizhzhya Oblast includes 7 communists, 2 socialists, and 1 agrarian (a rural socialist). But since these political parties are not monolithic, there are reform-minded leftist delegates, such as Serhy Vladislavovych Sobolev and Stepan Kuzmych Tkachenko, and some communists who are reformers as well. These include Borys Oliynyk, poet laureate and chairman of the parliamentary Commission on Foreign Affairs and Relations with the Commonwealth of Independent States. Impetus for economic reforms was provided initially by Yury G. Bochariev, then-President Kravchuk's representative for the Zaporizhzhya Oblast. Under his auspices, a plan was developed for economic deregulation and privatization, with technical advice from British components of Coopers and Lybrand, and Price Waterhouse (the latter being under contract with the U.S. Agency for International Development). However, Bochariev lost the June 1994 election for the chairmanship of the oblast council to Vyacheslov Pokhvalsky, a former Soviet oblast-level party official. He is assisted by Valery Malyev and Vitaly Volovych, both former Communist Party

officials, who have continued privatization.

Education and Culture

The city of Zaporizhzhya, like other oblast capitals, is the principal educational and cultural center in the oblast. Despite its 200-year history, however, it became a major city only before World War II and is known more for its steel and machine-building capacity than education and culture. After the Revolution, the school system expanded, so that by 1928, about 80 percent of school-age children were enrolled. Seventh grade education became mandatory in the early 1930's, and at the outbreak of the war, primary and secondary school enrollment totaled 37,200, with 1,082 teachers. In addition, a serious effort was made to educate the older population, with about a dozen schools providing adult education by 1941. Higher education was conducted in one pedagogical and two engineering institutes, all established in 1930.

Although war devastated the city and the school system, recovery was swift. By the autumn of 1944, one year after the Red Army recaptured the city, 33 schools (with 10,000 pupils) were operating, compared to 58 schools and 37,200 pupils before the war. The school system's expansion continued during the post-war years and by 1993, there were 124 day schools with 109,200 pupils, with nearly all schools in the oblast (98 percent in 1992) being day schools.

The former Soviet educational system was retained after independence without any basic changes (Table 1). General education schools (grades 1-11) provide primary and secondary education. Rudimentary secondary education, combined with vocational training, is given in vocational schools. Specialized secondary schools provide semi-professional training, and secondary education for those entering with only an eighth grade education. Students with secondary or specialized secondary education are eligible to enter institutions of higher learning, where training lasts 4 to 6 years. The city has 14 specialized secondary schools, three institutes of

higher learning and a university. The Zaporizhzhya University, established in 1984 as a pedagogical institute, had five departments and 4,500 students in 1988.

Zaporizhzhya is in a Russified portion of Ukraine and consequently, the Ukrainian language plays a secondary role in education. Data on the language of instruction were not published during the Soviet period, although presumably Ukrainian was taught as a subject in most general education schools. The situation has changed only slightly since independence. An unofficial source reported that of 101 general education schools in the city of Zaporizhzhya in 1987, one school taught in Ukrainian, five used both Ukrainian and Russian and the remaining 95 schools used Russian alone. Instruction in Ukrainian has increased in the last few years, but there is little evidence of rampant Ukrainization that is occasionally claimed by pro-Russian groups.

Cultural amenities in Zaporizhzhya, as of 1993, included 77 public libraries, three theaters, a philharmonic, two museums, numerous movie houses, clubs and parks. The Music and Drama Theater, located permanently in Zaporizhzhya since 1944, is the principal theater staging a wide range of foreign and domestic plays. The other two theaters are more recent and specialized--the Puppet Theater was established in 1971 and the Young Spectator's Theater in 1979. All are housed in the Glinka Concert Hall. The art museum, established in 1971, exhibits paintings and decorative and applied art objects of Ukrainian and other artists of the former Soviet Union. The Regional Studies Museum dates to 1927 and exhibits about 70,000 items. Displays highlight the region's natural history and human activities since the earliest times. These include archeological artifacts, items from the Cossack era, the Revolution, industrialization and World War II.

Living Conditions

Living standards have been eroding in Zaporizhzhya, as in other cities in Ukraine, but it is difficult to quantify the decline, due to insufficient city-level data. Oblast data, however, can be used as a surrogate since Zaporizhzhya accounts for 43 percent of the total and 56 percent of the oblast urban population. Per capita urban living space amounted to 16.6 sq. m. in 1992, slightly below the national average. Since the collapse of the former Soviet Union, per-capita living space has not changed, despite a decline in new construction. In the first 9 months of 1994, 64,000 square meters of living space were added in the city, a two-thirds decrease from the 196,000 sq. meters added during the same period of 1993. The stability in per-capita living space apparently is due to the near cessation of population growth.

Privatization of houses and apartments has been gaining momentum in recent years. The amount of publicly-owned housing sold to individuals increased from 66,500 square meters in 1990 to 838,400 square meters in 1992, a 12.6-fold increase in the oblast, compared to a 9.6-fold increase in Ukraine. By early 1993, the amount of privately-owned housing exceeded that in the public sector: 19.2 million square meters compared to 18.9 million square meters.

Health data provide little insight into the health care situation either in Ukraine or Zaporizhzhya. Statistics are reported by broad categories such as the number of physicians, auxiliary medical personnel, hospitals or hospital beds for Ukraine and by oblast, but rarely for lower jurisdictions. The city had 10,000 hospital beds in 1993, one-third of the oblast total. Although these figures show little change in recent years, increased mortality and a rise in the hospitalized population suggest deteriorating health conditions, at a time of insufficient medicine and medical supplies.

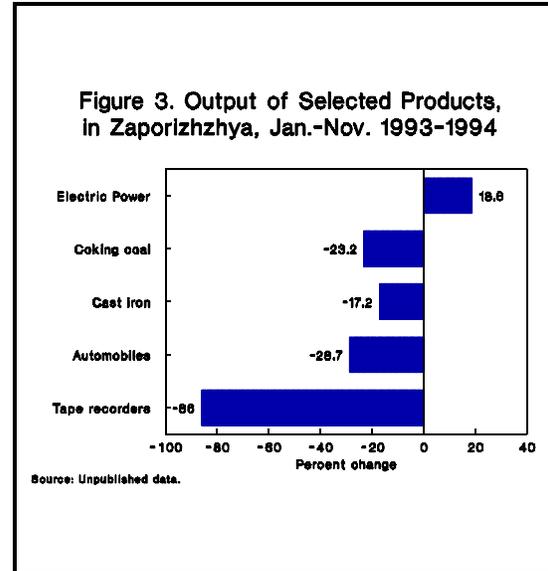
Living standards unquestionably have declined in Zaporizhzhya since the collapse of the former

Soviet Union, but the extent is unclear due to unreported economic activity. One example is the impact on production of grain-based foods. The oblast's 1993 output of grains and basic vegetables was three percent higher than in 1991, but bread and baked goods production fell 13 percent. Also, during that period, meat output (slaughter weight) fell 32 percent, but processed meat and meat product production dropped more significantly, by 57 percent. Retail sales of these foods fell even further (with private trade activity filling much of the gap).

The nascent market economy has changed the manner by which income is earned and spent. Between 1991 and 1993, wages's share of income fell from 57 to 36 percent, while income from unidentified "other sources" rose from 9 to 44 percent. An increasing share of that income is spent in private trade, despite prices that far exceed those in state or cooperative stores. Consequently, higher prices increased food and consumer good's share of total expenditures, from 66 percent to 84 percent of between 1991 and 1993.

The Economy

Zaporizhzhya city's economy has been in serious decline since the collapse of the Soviet Union. Industrial output fell 24 percent during the first 11 months of 1994, compared with the same period of 1993. Similar comparisons for an eight-month period showed a 28 percent decrease in the oblast and 33 percent for Ukraine. The most severe downturns were seen in heavy industry, since food and consumer industries fell only 16 percent (see Figure 3 for information on specific products). Food industry output declined 7 percent, while the consumer goods industry (including both consumer durables and soft goods) dropped 18 percent. In the city, 110 enterprises, comprising 76 percent of the total, reduced their production.



Despite this downturn, Zaporizhzhya remains a major industrial center, with a diversified manufacturing base. Metallurgy and machine-building, started by foreign industrialists before the Revolution, remain the principal industries in the city. These were supplemented during the Soviet period by production of chemicals, oil refined products, antibiotics, construction materials, food industry and light industry, mostly clothing and footwear manufacturing. Completion of the Dnieper Hydroelectric Station in 1932 provided ample electricity, and coupled with Donbas coking coal, Kryvy Rih iron ore and Nikopol manganese, all in close proximity, turned Zaporizhzhya into a key metallurgical center. The Zaporizhstol plant, the largest metallurgical complex in the city, was completed in 1933, evacuated during the war and rebuilt by 1947. The plant produces a wide range of metals including hot and cold rolled and sheet steel, castings and iron plates with several finishes. It was the first in the former Soviet Union to feature a continuously poured steel process, and by the 1970's, employed over 7,000 workers.

The city's best known product is the Zaporozhets automobile, produced by the Komunar plant. The facility, opened in 1923 to produce agricultural machinery, was converted to

automobile production between 1958 and 1960. Production grew steadily, so that by 1970, annual production reached 84,400 vehicles. The plant was integrated in 1977 with smaller plants in Melitopol (Zaporizhzhya Oblast), Lutske and Dnipropetrovsk, to form the Automobile Manufacturing Consortium, which produced 150,000 cars in 1978. In addition to the Zaporozhets, the consortium also produces a smaller car, the Tavria and several specialized cars for the disabled. The output of the Zaporizhzhya and Melitopol plants was 139,400 cars in 1991 and 128,900 cars in 1993, or 90 and 92 percent of Ukraine's auto output in those years.

The chemical industry, an important component of Zaporizhzhya's economy, is comparatively new. Ukraine is a major manufacturer of fertilizers and coking gas obtained from Zaporizhzhya metallurgical plants. About 100 tons of ammonium sulfate, extracted from the gas annually in the late 1980's, was used to produce fertilizer because of its nitrogen content. Nitrate fertilizer output in Zaporizhzhya decreased from 5,800 tons to 5,000 tons between 1991 and 1993. The industry expanded in the 1960's with the construction of the Kremynopolymyr plant (producing lacquers, enamels and lubricants from silicone polymers). Subsequent products included vinyl and feed additives.

In conclusion, Zaporizhzhya has cause for optimism regarding its future. Its diverse array of industrial facilities, and large numbers of technically skilled workers give Zaporizhzhya the means to produce many of the goods that may be in increased demand as the economy rebounds. In addition, the Soviet-era concentration of the economy in the state sector is diminishing comparatively rapidly, as the privatization program is comparatively stronger than in many other areas of Ukraine.

Table 1. Education in the Zaporizhzhya Oblast, 1990-1993				
Year	Number of schools	Number of students (thousands)	Language of instruction (Percent of students)	
			Ukrainian	Russian
General Education				
1990	664	284	--	--
1991	668	284	22.7	77.3
1992	675	284	24.9	75.1
1993	679	283	27.5	72.5
Specialized Secondary Education				
1990	27	29.8	--	--
1991	27	29.1	--	--
1992	27	27.5	8.5	91.5
1993	27	25.4	14.9	85.1
Higher Education				
1990	7	33.8	--	--
1991	7	34.4	--	--
1992*	7	34.2	0.2	99.7
1993*	7	33.9	14.4	85.4
<p>-- Not available. * Data as reported do not sum to 100 percent.</p> <p>Source: Ministerstvo statystyky Ukrayiny, <i>Narodne hospodarstvo Ukrayiny, 1992</i>. Kiev: Tekhnika, 1993, pp. 17, 174 and 180-88; and Ministerstvo statystyky Ukrayiny, <i>Narodne hospodarstvo Ukrayiny, 1993</i>. Kiev: Tekhnika, 1994, pp. 381, 384 and 390-393.</p>				

